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## URINE GUIDING ARTICLE AND USE OF THE SAME

## BACKGROUND OF THE INVENTION

The present invention relates to urine guiding articles  
5 and the same used in combination with a body fluid absorbent  
wearing article such as disposable diapers or urine-absorbent  
pads to guide a discharged urine flow downward to such body fluid  
absorbent wearing article after urination.

It is known, for example, from Japanese Utility Model  
10 Application No. 1994-48638A to form an absorbent pad of a  
disposable diaper with compressed grooves adapted to guide a  
urine flow downward. Such compressed grooves are effective to  
prevent body fluids such as urine from leaking sideways beyond  
the peripheral edge of the diaper.

15 However, such compressed grooves are previously formed  
in the disposable diaper and it will be obvious that the effect  
offered by the compressed grooves can not be utilized if the  
user purchases the diaper formed with none of these compressed  
grooves.

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## SUMMARY OF THE INVENTION

It is an object of the present invention to provide a  
simplified means adapted to guide a discharged urine flow in

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a body fluid absorbent wearing article without relying upon compressed grooves formed in such body fluid absorbent wearing article.

According to an aspect of the present invention, there  
5 is provided a urine guiding article and, according to another aspect of the present invention, there is provided use of such urine guiding article.

The present invention includes a urine guiding article having a longitudinal direction and a transverse direction, the  
10 urine guiding article further comprising: a plurality of ribbon-like strips extending along the longitudinal direction while being arranged in the transverse direction and having proximal end portions and distal end portions; and a sheet-like connecting region adapted to interconnect the proximal end  
15 portions of the plurality of ribbon-like strips, whereby an amount of urine discharged on the plurality of ribbon-like strips is guided therealong from the proximal end portions toward the distal end portions.

The ribbon-like strips are adapted to spread the amount  
20 of urine in the longitudinal direction rather than in the transverse direction.

The ribbon-like strips comprises a fibrous assembly in which component fibers are oriented in the longitudinal

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direction.

The ribbon-like strips comprise hydrophobic fibers.

The ribbon-like strips comprise, in addition to the hydrophobic fibers, hydrophilic fibers also.

5       The connecting region is coated on one surface thereof with an adhesive.

The adhesive is one for permanently attaching an inner surface of a body fluid absorbent wearing article.

The adhesive is one for detachably attaching an inner  
10       surface of a body fluid absorbent wearing article.

According to another aspect of this invention, the urine guiding article is used in combination with a body fluid absorbent wearing article in a manner that the connecting region of the urine guiding article is attached to an inner surface  
15       of the body fluid absorbent wearing article.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view showing a urine guiding article;

20       Fig. 2 is a diagram illustrating the urine guiding article as put on the wearer's body; and

Fig. 3 is a partially cutaway perspective view illustrating how the urine guiding article is used in a manner

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different from the manner shown in Fig. 2.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Details of the urine guiding article according to the  
5 present invention will be more fully understood from the  
description given hereunder with reference to the accompanying  
drawings.

A urine guiding article 1 illustrated in Fig. 1 comprises  
a urine guiding region 3 including a plurality of ribbon-like  
10 strips 2 extending parallel one to another obliquely downward  
as viewed in Fig. 1 and a sheet-like connecting region 6  
extending in a transverse direction and interconnecting upper  
end portions of the individual ribbon-like strips 2 one with  
another.

15 Each of the ribbon-like strips 2 preferably has a width  
of 3 mm to 30 mm and a length of 50 mm to 400 mm. A sheet material  
for such ribbon-like strip 2 may be selected from the group  
including a nonwoven fabric, a woven fabric, a film and a paper.  
When a nonwoven fabric or a woven fabric is used as this sheet  
20 material, such nonwoven or woven fabric may be constituted by  
hydrophobic fibers, hydrophilic fibers or a mixture of  
hydrophobic fibers and hydrophilic fibers. The fiber is  
preferably oriented in a longitudinal direction of the

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ribbon-like strip 2.

Similarly to the ribbon-like strips 2, a stock material for the connecting region 6 may be selected from the group including a nonwoven fabric, a woven fabric, a film and a paper.

5 The respective upper end portions 4 of the ribbon-like strips 2 are secured selectively by various means such as adhesion, heat-welding and stitching. In the illustrated embodiment, the connecting region 6 includes an inner sheet 11 coated with a self-adhesive 13 and an outer sheet 12 laid on the backside

10 of the inner sheet 11. As illustrated, a plurality of the ribbon-like strips 2 are interposed between the inner and outer sheets 11, 12 constituting the connecting region 6 are arranged side by side in the transverse direction so as to overlap themselves two by two or three by three.

15 Fig. 2 shows the urine guiding article 1 as put on a wearer's body. The inner sheet 11 of the urine guiding article 1 is releasably attached to a belly of the wearer 10 by means of the self-adhesive 13 applied on the inner sheet 11. The ribbon-like strips 2 extend downward from the belly of the

20 wearer 10 toward a crotch region of the wearer 10 so as to gather together and consequently have a total width gradually reduced and cover urethral (not shown). On the outer side of the urine guiding article 1, a conventional urine-absorbent pad 19

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comprising a liquid-pervious topsheet 17, a liquid-impervious backsheet 18 and a liquid-absorbent core 16 interposed between these two sheets 17, 18 is placed. On the outer side of the urine-absorbent pad 19, briefs 21 are placed to maintain the pad 19 in close contact with the crotch region of the wearer 10 as indicated by imaginary lines. By using the urine guiding article 1 in this manner, it is ensured that an amount of urine discharged onto a portion of the ribbon-like strips 2 facing the urethral wet this portion and flow downward to lower end portions 5 of the ribbon-like strips 2, in other words, to a crotch region of the urine-absorbent pad 19 rather than to transversely side edges of the urine-absorbent pad 19. In this way, use of the urine guiding article 1 makes it possible to prevent any amount of urine from leaking sideways in the urine-absorbent pad 19.

Fig. 3 is a partially cutaway perspective view showing the urine-absorbent pad 19 to illustrate an example of how the urine guiding article 1 is used. The urine-absorbent pad 19 comprises, similarly to that illustrated in Fig. 2, the liquid-pervious topsheet 17, the liquid-impervious backsheet 18 and the body fluid absorbent core 16. The connecting region 6 of the urine guiding article 1 is attached to the inner surface 17a of the topsheet 17 by various means such as adhesion,

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pressure sensitive adhesion and welding. Of the urine guiding article 1, the connecting region 6 lies in the vicinity of one of longitudinally opposite ends 26 of the urine-absorbent pad 19 and the ribbon-like strips 2 extend between the longitudinally opposite ends 26. Use of the urine-absorbent pad 19 arranged in this manner makes it unnecessary to attach the urine guiding article 1 to the wearer's body like the urine guiding article 1 illustrated in Fig. 2. The urine-absorbent pad 19 illustrated in Fig. 3 can be made by the wearer him- or herself as long as a conventional urine-absorbent pad and the urine guiding article 1 illustrated in Fig. 1 are available for the wearer. In the illustrated embodiment of the urine guiding article 1, the ribbon-like strips 2 and the connecting region 6 are made of the same material and a plurality of the ribbon-like strips 2 are arranged side by side in the transverse direction.

While the urine guiding article 1 has been described in combination with the urine-absorbent pad 19, this urine guiding article 1 may be used in combination with the conventional disposable diaper without departing from the present invention. Of the urine guiding article 1, the ribbon-like strips 2 are preferably configured so as to spread a discharged amount of urine more rapidly in the longitudinal direction than in the transverse direction. The ribbon-like strips 2 offering such

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desired effect can be obtained by orienting the component fibers of the respective strips 2 in the longitudinal direction of the strips 2. The component fibers which are hydrophobic and oriented in the longitudinal direction facilitate the urine  
5 flow to be guided toward the lower end portions 5 of the respective strips 2. These strips 2 are distinguished from the compressed grooves of the core as has been described at the beginning, the orientation of the component fibers forming the respective strips 2 may be selected within a relatively wide  
10 range to determine a direction in which the discharged amount of urine is desired to be guided by these strips 2.

The urine guiding article according to the present invention may be releasably attached to the wearer's body or to the inner surface of the urine-absorbent pad or the  
15 disposable diaper to guide the urine flow in the direction in which the respective strips of the urine guiding article extend. By use of this urine guiding article, it is possible to prevent any amount of urine from leaking sideways in the disposable diaper or the like and it becomes no more necessary to form the  
20 body fluid absorbent core with the compressed grooves.